

CLAIMS

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What is claimed is:

1 ^{SUB} 7 1. A method comprising:
2 capturing an intensity at a location on a surface in a single pixel of an
3 image sensing array (ISA); and
4 converting the intensity into a measurement of distance to the location
5 relative to a reference point independently of data from other pixels of the ISA.

1 2. The method of claim 1 wherein the ISA is a linear image sensor.

1 3. The method of claim 2 wherein the linear image sensor is one of a
2 linear charge coupled device (CCD) and a photo diode array.

1 4. The method of claim 1 further comprising:
2 comparing a plurality of captures of the intensity at the location under
3 different conditions to compensate for non-homogenous environments or surface.

1 5. The method of claim 1 further comprising:
2 comparing a plurality of captures of the intensity at the location at
3 different points in time to compensate for non-homogeneous environments or
4 surfaces.

1 ^{SUB} 7 6. A method comprising:
2 capturing an intensity at a location on a surface in an elementary group
3 of pixels on an image sensing array (ISA) without regard to intensity distribution
4 within the group; and

SUB A2
CONT'D.

5 ~~converting the intensity into a measurement of distance to the location~~
6 ~~independently of data from other pixels on the ISA.~~

1 7. The method of claim 6 wherein the ISA is a linear image sensor.

1 8. The method of claim 7 wherein the linear image sensor is one of a
2 linear charge coupled device (CCD) and a photo diode array.

1 9. The method of claim 6 further comprising:
2 comparing a plurality of captures of the intensity at the location under
3 different conditions to compensate for non-homogenous environments or surfaces.

1 10. The method of claim 6 further comprising:
2 comparing a plurality of captures of the intensity at the location at
3 different points in time to compensate for non-homogeneous environments or
4 surfaces.

1 SUB A37 11. A method comprising:
2 capturing a spectral energy distribution returned from a location on a
3 surface in a single pixel of an ISA; and
4 converting the spectral energy distribution into a measurement of
5 distance to the location relative to a reference point ~~independently of data from~~
6 ~~other pixels of the ISA.~~

1 12. A method comprising:
2 altering one of a spatial and optical relationship between an image
3 sensing array (ISA) and a surface;

SUB A2
contd.

4 observing a variation of an electrical signal at a single pixel on the ISA
5 responsive to the alteration; and
6 converting the variation to a measure of distance to a location on the
7 surface relative to a reference point, independently of data from other pixels of the
ISA.

13. A method comprising:

2 altering one of a spatial and optical relationship between an image
3 sensing array (ISA) and a surface;

4 observing a variation of an electrical signal at an elementary group of
5 pixels on the ISA without regard to variations in electrical signals within the group
6 responsive to the alteration; and
7 converting the variation to a measure of distance to a location on the
8 surface relative to a reference point, independently of data from other pixels of the
9 ISA.

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